

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-44 (Cancelled)

45. (Currently Amended) In a telecommunication system, a method for routing optical data signals using one or more optical addressing links for carrying optical addressing signals, wherein a combination of said optical addressing signals provides addressing information required for establishing an address for routing the optical data signals, and wherein said optical data signals are transmitted via an optical data link and wherein said one or more optical addressing links is at least partially different from said optical data link.

46. (Currently Amended) In a telecommunication system, a method for routing optical data signals, which method comprises:

generating first optical addressing signals by converting signals identifying a destination address into corresponding optical addressing signals;

transmitting said optical addressing signals over one or more optical addressing links to a ~~first~~ next router; and

concurrently or subsequently transmitting said optical data signals to said ~~first~~ next router via an optical data link, and

wherein said method is characterized in that said one or more optical addressing links is at least partially different from said optical data link.

47. (Currently Amended) A The method according to claim 46, further comprising the steps of:

generating ~~second~~ new optical addressing signals associated with the next section of a transmission path extending from ~~said first~~ a current router towards said destination address;

transmitting the ~~second~~ new optical addressing signals over one or more optical addressing links extending between said ~~first~~ current router and a ~~second~~ next router;

transmitting said optical data signals to said ~~second~~ next router via an optical data link extending between said ~~first~~ current router and said ~~second~~ next router wherein said optical data link is at least partially different from said one or more optical addressing links; and

repeating the steps (d) to (f) of generating new optical addressing signals, transmitting the new optical addressing signals and transmitting said optical data signals to said next router, until said optical data signals are transmitted to said destination address via subsequent routers located along a transmission path extending towards said destination address.

48. (Currently Amended) A The method according to claim 45, ~~wherein further comprising the step of the information extracted from at least one of the optical addressing signals transmitted~~ transmitting, at one of two binary illumination states, the information extracted from at least one of the optical addressing signals.

49. (Currently Amended) A The method according to claim 45, further comprising the steps of transmitting, at a certain

illumination level, wherein at least one of the optical addressing signals is transmitted at a certain illumination level whereas and presenting, by absence of illumination at least one other optical addressing signal. ~~is presented by absence of illumination.~~

50. (Currently Amended) A The method according to claim 45, wherein at least two of the optical addressing signals are transmitted each at substantially the same wavelength and at a different illumination intensity and wherein each of the illumination intensities corresponds to a different addressing information.

51. (Currently Amended) A The method according to claim 45, wherein at least two of the optical addressing signals are transmitted each at substantially the same intensity and at a different wavelength, and wherein each of the different wavelengths corresponds to a different addressing information.

52. (Currently Amended) A The method according to claim 50, wherein an optical address is derived from a combination of at least two optical addressing signals each transmitted at a different wavelength and at a different intensity from the other.

53. (Currently Amended) A The method according to claim 46, wherein the transmission of at least one of the optical data signals is delayed until the following steps are performed:

decoding said optical addressing signals;
deriving addressing information from the decoded optical addressing signals; and

if required, generating another, or using said, optical routing address for further routing of said optical data signals.

54. (Currently Amended) A The method according to claim 53, wherein the transmission of said at least one of the optical data signals is delayed by allowing said at least one of the optical data signals to pass through an optic fiber of a length corresponding to a desired delay in the transmission.

55. (Currently Amended) In a telecommunication system, a method for routing optical data signals, which method comprises:

generating first optical addressing signals by converting the signals identifying a destination address into corresponding optical addressing signals;

assigning optical addressing links which extend towards said destination address based on said first optical addressing signals;

establishing a data transmission path between a transmission source transmitting said optical addressing signals over one or more optical data links, and a destination for the transmission of the optical data signals wherein said optical data links are at least partially different from said optical addressing links;

transmitting to said transmission source an indication that said optical data signals can be forwarded towards their destination;

receiving said indication at said transmission source;
and

transmitting said optical data signals towards said destination along said data transmission path.

56. (Currently Amended) A The method according to claim 55, wherein said indication serves as an acknowledgement in a communication signaling process.

57. (Currently Amended) A The method according to claim 55, wherein said first optical addressing signals are transmitted along a first path and at least one part of said first path extends in a network different than a network in which said optical data signals are transmitted to their destination.

58. (Currently Amended) A The method according to claim 55, wherein said indication is transmitted along a second path and at least one part of said second path extends in a network different than a network in which said optical data signals are transmitted to their destination.

59. (Currently Amended) A The method according to claim 57, wherein said at least one part of said first path extends in a network ~~being a member of the group comprising~~ which uses at least one of the following protocols: MPLS, MPAS, IP, ATM and SS7.

60. (Currently Amended) A The method according to claim 58, wherein said at least one part of said second path extends in a network ~~being a member of the group comprising~~ which uses at least one of the following protocols: MPLS, MPAS, IP, ATM and SS7.

61. (Currently Amended) A The method according to claim 55, wherein the step (f) of transmitting said optical data signals towards said destination is delayed until the step (e)

| of receiving said indication at said transmission source is
completed.

| 62. (Currently Amended) ~~A~~ The method according to claim
58, wherein the indication is transmitted along a path
different then said data transmission path.

| 63. (Currently Amended) ~~A~~ The method according to claim
55, wherein the indication is an optical indication signal.

| 64. (Currently Amended) ~~A~~ The method according to claim
55, wherein the indication is an electric indication signal.

65 (cancelled).

66. (Currently Amended) Apparatus for routing optical
data signals, said apparatus comprises:

means for generating first optical addressing signals by
converting signals identifying a destination address into
corresponding optical addressing signals;

means for transmitting said optical addressing signals
over one or more optical addressing links to a first router;
and

means for transmitting said optical data signals to said
first router via an optical data link wherein said optical
data link is at least partially different from said one or
more optical addressing links.

| 67. (Currently Amended) ~~Apparatus~~ The apparatus according
to claim 65, in which at least one of the optical addressing
signal is transmitted at a certain illumination level and at

least another optical addressing signal is presented by absence of illumination.

68. (Currently Amended) ~~Apparatus~~ The apparatus according to claim ~~6566~~, in which at least two of the optical addressing signals are transmitted at substantially similar wavelength and at a different illumination intensity, and each of the illumination intensities corresponds to a different addressing information.

69. (Currently Amended) ~~Apparatus~~ The apparatus according to claim ~~6566~~, wherein at least two of the optical addressing signals are transmitted at a different wavelength, and each of the different wavelengths corresponds to a different addressing information.

70. (Currently Amended) ~~Apparatus~~ The apparatus according to Claim 69, wherein said at least two of the optical addressing signals are transmitted at substantially similar intensity.

71. (Currently Amended) ~~Apparatus~~ The apparatus according to claim ~~6566~~, in which at least two of the optical addressing signals are transmitted each at a wavelength and intensity that are different from the wavelength and intensity of the other one of said at least two of the optical addressing signals.

72. (Currently Amended) ~~Apparatus~~ The apparatus according to claim ~~6566~~, further comprising:

- means for delaying optical data signals;
- means for decoding said optical addressing data;

means for deriving addressing information from the decoded optical addressing signals; and

means for generating optical routing address for further routing of optical data signals.

73. (Currently Amended) ~~Apparatus~~ The apparatus according to claim 72, comprising an optic fiber for delaying the transmission of at least one of the optical data signals and means for directing said at least one of the optical data signals to pass through said optic fiber.

74 - 75 (cancelled).

76. (Currently Amended) A telecommunication system comprising:

a) signal generating means for generating first optical addressing signals by converting signals identifying a destination address into corresponding optical addressing signals;

b) first transmission means for transmitting said optical addressing signals over one or more optical addressing links towards said destination address;

c) a data transmission path extending between a transmission source and a destination for the transmission of the optical data signals, and wherein said data transmission path comprises at least one optical link which is different from any of said one or more optical addressing links;

d) second transmission means for transmitting to said transmission source an indication that said optical data signals can be forwarded towards their destination;

e) receiving means for receiving said indication; and

f) transmission means for transmitting said optical data signals responsive to receiving said indication, towards said destination address along said data transmission path.

77. (Currently Amended) A The system according to claim 76, wherein the indication is an optical indication signal.

78. (Currently Amended) A The system according to claim 76, in which the optical indication signal is transmitted to the transmission source via the data transmission path.

79. (Currently Amended) A The system according to claim 76, in which the indication is an electric indication signal.

80-81 (cancelled).

82. (Currently Amended) Apparatus for transmitting optical data signals, comprising:

a) signal generating means for generating optical addressing signals by converting signals identifying a destination address into corresponding optical addressing signals;

b) transmission means for transmitting said optical addressing signals over one or more optical addressing links towards said destination address; and

c) transmission means for transmitting said optical data signals towards said destination address along a path comprising at least one optical link different than any one of said one or more optical addressing links.

83. (Currently Amended) ~~An~~ The apparatus according to Claim 82, further comprising means for receiving an indication

that said optical data signals can be forwarded towards their destination, wherein said means for transmitting said optical data signals is adapted to transmit the optical data signals towards said destination responsive to receiving said indication.

84. (Currently Amended) ~~Apparatus~~ The apparatus according to claim ~~43~~ 83, operatively associated with at least one link that is a member of the group comprising: a link in a MPLS network, a link in a MPΛS network, a link in an ATM network and a link in an SS7 network, which link is adapted to receive said indication.

85 (cancelled).

86. (Currently Amended) A telecommunication routing apparatus comprising:

a) receiving means for receiving first optical addressing signals;

b) signal generation means for generating second optical addressing signals associated with the next section of a transmission path extending towards ~~the~~ a destination address;

c) transmission means for transmitting the second optical addressing signals over one or more optical addressing links extending towards the destination address;

d) receiving means for receiving ~~the~~ optical data signals; and

e) transmission means for transmitting the optical data signals received towards the destination address along an optical path which comprises at least one optical link that is different from any one of said one or more optical addressing links.